

What is claimed is:

1. An apparatus for controlling output power of a mobile terminal comprising:

5 a power amplifier module for amplifying power of a radio frequency signal, corresponding to a data signal, to a first power level;

a transmitter for radiating the radio frequency signal at the first power level to a base station through an antenna of a mobile terminal; and

10 a power compensating unit for measuring the first power level and generating a first difference value by comparing the first power level with a pre-set reference power value,

wherein the power amplifier module controls an amplification factor for amplifying the power of the radio frequency signal corresponding to the data signal on the basis of the first difference value.

15 2. The apparatus of claim 1, wherein the transmitter comprises:

a coupler for detecting the first power level;

an antenna switch for selecting the radio frequency signal outputted through the coupler;

20 a mobile switch for applying the radio frequency signal selected by the antenna switch for radio transmission; and

an antenna for radiating the radio frequency signal outputted from the mobile switch to the base station.

25 3. The apparatus of claim 2, wherein the power

compensating unit comprises:

a feedback unit for measuring a second power level associated with the output power of the radio frequency signal radiated from the antenna;

5 a controller for generating the pre-set reference power value in order to maintain a constant power level of the radio frequency signal radiated from the antenna; and

a comparing unit for comparing the second power level with the reference power value generated by the controller.

10 4. A system for maintaining an amplified transmission level for a mobile communication device, the system comprising:

an amplification module in communication with a signal generator of the mobile communication device;

15 a communication module for transmitting a first signal amplified by the amplification module in form of a second signal; and

a power adjusting unit in communication with the amplification module and the communication module, wherein the power adjusting unit measures first and second power levels respectively associated with the first and second signals to determine first and second difference values, and wherein an amplification factor of the amplification module is adjusted 20 based on the first and second difference values.

25 5. The system of claim 4, wherein the first difference value is used to generate a first auto power control (APC) signal provided to the amplification module for adjusting the amplification factor.

6. The system of claim 5, wherein the second difference value is used to generate a second auto power control (APC) signal provided to the amplification module for adjusting the amplification factor.

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7. The system of claim 4, wherein the first difference value is determined by comparing the first power level with a predetermined value.

10 8. The system of claim 4, wherein the second difference value is determined by comparing the second power level with a predetermined value.

9. The system of claim 4, wherein the communication module further comprises:

15 a coupler for measuring the first power level associated with the first signal.

20 10. The system of claim 9, wherein the communication module further comprises an antenna from which the second signal is transmitted.

11. The system of claim 10, wherein the communication module further comprises:

25 an antenna switch and a mobile switch for switching the first signal to the antenna.

12. The system of claim 11, wherein the communication module further comprises a receiving unit for receiving an incoming signal from the antenna.

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13. The system of claim 4, wherein the power adjusting unit comprises a comparing unit for comparing the first and second power levels with a predetermined value to determine the first and second difference values.

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14. The system of claim 4, wherein the power adjusting unit further comprises a feedback unit for measuring the second power level associated with the second signal.

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15. The system of claim 13, wherein the second signal is the first signal when transmitted by an antenna in communication with the amplification module.

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16. The system of claim 7, wherein the power adjusting unit further comprises a controller for providing the predetermined value.

17. The system of claim 8, wherein the power adjusting unit further comprises a controller for providing the predetermined value.

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18. The system of claim 6, wherein the first and second APC

signals are provided to the amplification module to control adjustment of the amplification factor.

19. The system of claim 4, wherein the amplification factor is increased, if at least one of the first and second difference values is below a first threshold.

20. The system of claim 4, wherein the amplification factor is decreased, if at least one of the first and second difference values is above a first threshold.

21. A method for maintaining an amplified transmission level for a mobile communication device, the method comprising:

comparing a first power level associated with a first signal generated by an amplification module with a first threshold to determine a first difference value;

comparing a second power level associated with second signal generated by an antenna in communication with the amplification module with a second threshold to determine a second difference value; and

adjusting an amplification factor of the amplification module based on the first and second difference values.

22. The method of claim 21 further comprising:

generating first and second auto power control (APC) signals based on the respective first and second difference values; and

providing the first and second APC signals to the amplification module.

23. The method of claim 22, wherein the amplification factor is
5 adjusted based on the first and second APC signals.

24. The method of claim 21, wherein the amplification factor is increased if the first difference value indicates that the first power level is less than a predetermined power level.

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25. The method of claim 21, wherein the amplification factor is increased if the second difference value indicates that the second power level is less than a predetermined power level.

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26. The method of claim 21, wherein the mobile communication device comprises:

an amplification module in communication with a signal generator of the mobile communication device;

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a communication module for transmitting the first signal amplified by the amplification module in form of the second signal; and

25 a power adjusting unit in communication with the amplification module and the communication module, wherein the power adjusting unit measures the first and second power levels respectively associated with the first and second signals to determine the first and second difference values.

27. The method of claim 26, wherein the first difference value is used to generate a first auto power control (APC) signal provided to the amplification module for adjusting the amplification factor.

5 28. The method of claim 27, wherein the second difference value is used to generate a second auto power control (APC) signal provided to the amplification module for adjusting the amplification factor.

10 29. The method of claim 26, wherein the communication module further comprises:

a coupler for measuring the first power level associated with the first signal.

15 30. The method of claim 29, wherein the communication module further comprises an antenna switch and a mobile switch for switching the first signal to the antenna.

20 31. The method of claim 21, wherein the amplification factor is decreased if the first difference value indicates that the first power level is greater than a predetermined power level.

32. The method of claim 21, wherein the amplification factor is decreased if the second difference value indicates that the second power greater is less than a predetermined power level.